AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 - 35. (Canceled)

- 36. (Currently Amended) A transgenic mouse, wherein an endogenous IgH locus comprises replacement of its switch sequence $S\mu$ with a transgene comprising consisting of a human class A immunoglobulin heavy chain constant region gene $C\alpha$ or a segment of said $C\alpha$ gene comprising at least an exon encoding the CH3 domain and a membrane exon, wherein said transgenic mouse produces chimeric immunoglobulins A whose heavy chains comprise a mouse variable region and a human constant region or a segment thereof comprising at least the CH3 domain, and wherein said transgenic mouse produces no immunoglobulins \underline{M} .
- 37. (Previously Presented) The transgenic mouse of claim 36, which is homozygous for said modified IgH locus.
- 38. (Currently Amended) The transgenic mouse of claim 36, wherein said transgene emprises consists of the entire $C\alpha$ gene.
- 39. (Currently Amended) The transgenic mouse of claim 36, wherein said transgene emprises consists of the segment of the $C\alpha$ gene comprising the exon encoding the CH3 domain and the membrane exon.
- 40. (Previously Presented) The transgenic mouse of claim 36, wherein said $C\alpha$ gene is the $C\alpha 1$ gene.
- 41. (Previously Presented) The transgenic mouse of claim 36, which further comprises another transgene encoding a human immunoglobulin light chain.
- 42. (Previously Presented) The transgenic mouse of claim 41, wherein said light chain is a kappa light chain.

- 43. (Currently Amended) The transgenic mouse of claim 41, wherein said ztransgene transgene which encodes a human immunoglobulin kappa light chain, further comprises the intronic activator Eμ upstream of a DNA sequence encoding said_human immunoglobulin kappa light chain and the palindrome hs3a/hs1,2/hs3b downstream of said DNA sequence.
- 44. (Previously Presented) The transgenic mouse of claim 43, wherein said transgene is under the control of the promoter of the human immunoglobulin heavy chain.
- 45. (Previously Presented) The transgenic mouse of claim 41, which is dizygous for said transgene.
- 46. (Previously Presented) The transgenic mouse of claim 41, further comprising_an inactivated endogenous immunoglobulin kappa light chain locus.
- 47. (Previously Presented) The transgenic mouse of claim 46, which is homozygous for said inactivated endogenous immunoglobulin kappa light chain locus.
- 48. (Previously Presented) The transgenic mouse of claim 36, further comprising an inactivated endogenous J chain gene.
- 49. (Previously Presented) The transgenic mouse of claim 48, which is homozygous for said inactivated endogenous J chain gene.
- 50. (Previously Presented) The transgenic mouse of claim 48, which further comprises another transgene encoding a human immunoglobulin J chain gene.
- 51. (Canceled)
- 52. (Previously Presented) The transgenic mouse of claim 36, wherein said:
- a) endogenous mouse IgH locus comprises the replacement of its switch sequence $S\mu$ with the entire human class A immunoglobulin heavy chain constant region gene $C\alpha 1$, and
- b) which transgenic mouse further comprises a human kappa light chain transgene comprising a VκI gene rearranged with a Jκ5 gene, a Jκ-Cκ intron and a Cκ gene, under the transcriptional

control of the human heavy chain promoter (pVH), the intronic activator $E\mu$ upstream of said promoter of and the palindrome hs3a/hs1,2/hs3b downstream of said $C\kappa$ gene.

- 53. (Previously Presented) A homologous recombination targeting vector, which comprises a human class A immunoglobulin heavy chain constant region gene $C\alpha$ or a segment of said $C\alpha$ gene comprising at least an exon encoding the CH3 domain and a membrane exon, flanked by fragments of sequences of the mouse IgH locus which are adjacent to its switch sequence $S\mu$.
- 54. (Previously presented) The targeting vector of claim 53, which comprises a cassette for expressing a selection marker, adjacent to said $C\alpha$ gene or to a segment of said gene.
- 55. (Previously presented) The targeting vector of claim 54, wherein said expression cassette is flanked by site-specific recombination sequences.
- 56. (Currently amended) The targeting vector of claim 55 wherein said sequences are LoxP sequences of Cre recombinase.
- 57. (Canceled)
- 58. (Previously Presented) The targeting vector of claim 53, wherein said fragments of sequences consist of the sequences SEQ ID NO: 7 and SEQ ID NO: 8, corresponding respectively to positions 131281 to 136441 and 140101 to 145032 in the sequence of murine chromosome 12 (accession number AC073553 in the EMBL/GenBank database)
- 59. (Previously Presented) A mouse embryonic cell, which is modified with the targeting vector of claim 53.
- 60-73 (Withdrawn)